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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,985	11/30/2000	Ian M. Williams	SGI 15-4-838.00	6290

7590 02/20/2003  
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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT PAPER NUMBER

2672

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/727,985

Applicant(s)

WILLIAMS, IAN M.

Examiner

Motilewa A. Good-Johnson

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other:

### DETAILED ACTION

1. This office action is responsive to the following communications: Application, filed on 11/30/2000; IDS, paper #7, filed on 04/15/2002.
2. Claims 1-25 are pending in this application. Claims 1, 13 and 20 are pending in this application. No claims have yet been amended.
3. The present title of this application is "Texture Generating Apparatus for Dynamic Interference Checking" (as originally filed).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Albeck et al., U.S. Patent Number 6,167,151, "Apparatus and Method for 3-Dimensional Surface Geometry Reconstruction", class 382/154, 12/2000, filed 12/1997.

As per independent claim 1, a texture generating apparatus, configured in a CAD adapted computer graphic system, adapted to provide proximity analysis of objects . . . comprising: a processing portion coupled to the texture generating apparatus adapted

to perform calculations of the proximity analysis; Albeck discloses a texture analyzer to analyze texture of a section of a portion of a surface geometry including overlap sections, col. 2, lines 20-31; a texture coordinates generator portion coupled to said texture generating apparatus adapted to provide coordinates . . . ; Albeck discloses determining the relative locations of the texture portions, col. 2, lines 25-29; and a rendering portion coupled to said texture generating apparatus adapted to provide renderability of the texture . . . Albeck discloses texture generators for providing certain regions of the object with projected texture patterns, col. 6, lines 57-62.

With respect to dependent claim 2, processing portion is adapted to operate independently of, but in conjunction with, the CAD adapted computer graphic system. Albeck discloses the operations unit receiving inputs from a CAD file or output of a CAD file, col. 6, lines 1-18.

With respect to dependent claim 3, objects in a design comprise a first object and a second object. Albeck discloses reconstruction of objects captured by a stationary device, col. 3, lines 48-50.

With respect to dependent claims 4-6, the first object is a component of a design and the second object is a defined plane. Albeck discloses generating an object from three views, using surface geometry for reconstruction of the surface geometry using the portions of the object, and a surface geometry stitching unit to determine the relative portions of the object, col. 1, lines 50-67.

With respect to dependent claim 7, the texture generator is adapted to access a proximity value characterizing a spatial relationship between objects in a design.

Albeck discloses the texture analyzing operation to determine relative location of the portions of the objects, col. 2, lines 23-28.

With respect to dependent claim 8, the texture generator is adapted to provide a gradation corresponding to the spatial relationship of the component of a design and a defined plane. Albeck discloses performing surface interpolation to generate a continuous colored surface, col. 9, lines 1-4.

With respect to dependent claim 9, the rendering portion is adapted to render the texture onto the first object such that the gradation indicates the spatial relationship of the first object and the second object. Albeck discloses the colored cloud displayed using its texture or generating artificial effects, col. 9, lines 10-12.

With respect to dependent claim 10, Albeck discloses an object manipulator operative to move the object and further discloses calculating the reconstruction based upon the view, col. 1, lines 51-67.

With respect to dependent claim 11, texture generator is further adapted to generate a renderable texture so as to enable a user to apply the texture having a gradation on a per frame basis upon the objects in a design. Albeck discloses the color cloud may be animated or special effects, col. 9, lines 13-15.

With respect to dependent claim 12, texture generator is further adapted to generate a renderable texture so as to enable a user to dynamically apply an alternative texture having a gradation on a per frame basis . . . Albeck discloses performing surface interpolation to generate a continuous colored surface, col. 9, lines 1-4, and the

colored cloud displayed using its texture or generating artificial effects, col. 9, lines 10-12.

As per independent claim 13, it is rejected based upon similar rational as above independent claim 1. Albeck further discloses a general-purpose computer system, stored and control of the information by user input, col. 18, lines 34-49.

With respect to dependent claim 14, texture of said texture based proximity analysis is user definable. Albeck discloses a texture process for superimposing a pattern on an object, col. 2, lines 35-37.

With respect to dependent claim 15, texture of said texture based proximity analysis is user scaleable. Albeck discloses automatic or manual scaling of an object based upon known point features, col. 10, lines 39-48.

With respect to dependent claim 16, first object is comprising a component of a design, said component of a design relative to said second object. Albeck discloses the texture analyzing operation to determine relative location of the portions of the objects, col. 2, lines 23-28.

With respect to dependent claim 17, second object comprises a defined plane . . . any of the six orthogonal planes relative to the first object. Albeck discloses the relative orientation of the object with at least five degrees of freedom, col. 3, lines 8-10.

With respect to dependent claim 18, plane comprising any of the six orthogonal planes defined as a boundary with regard to the second object.

With respect to dependent claim 19, second object comprises a component of a design, said component of a design is relative to said first object. Albeck discloses

generating an object from three views, using surface geometry for reconstruction of the surface geometry using the portions of the object, and a surface geometry stitching unit to determine the relative portions of the object, col. 1, lines 50-67.

As per independent claim 20, in a CAD system for performing proximity analysis . . . comprising the steps of: accessing a proximity value characterizing a spatial relationship . . . ; Albeck discloses determining the relative locations of the texture portions, col. 2, lines 25-29; generating a texture having a gradation corresponding to the proximity values . . . ; 29 Albeck discloses performing surface interpolation to generate a continuous colored surface, col. 9, lines 1-4, and the colored cloud displayed using its texture or generating artificial effects, col. 9, lines 10-12; rendering the texture onto the first object such that the gradation indicates the spatial relationship . . . ; Albeck discloses the deviations of colors are used to represent the distance with different ranges, col. 13, lines 56-60; displaying the first object and the second object . . . ; and repositioning the first object such that the texture and the gradation thereof . . . , Albeck discloses generating an object from three views, using surface geometry for reconstruction of the surface geometry using the portions of the object, and a surface geometry stitching unit to determine the relative portions of the object, col. 1, lines 50-67.

With respect to dependent claim 21, the gradation is used to implement visual contours on the first object corresponding to a distance from the second object. Albeck discloses calculating the closest point to the current reconstructed point on the surface structure, col. 13, lines 50-60.

With respect to dependent claim 22, the gradation is used to implement visual colors on the first object corresponding to a distance from the second object. Albeck discloses the deviations of colors are used to represent the distance with different ranges, col. 13, lines 56-60.

With respect to dependent claims 23-25, Albeck discloses generating an object from three views, using surface geometry for reconstruction of the surface geometry using the portions of the object, and a surface geometry stitching unit to determine the relative portions of the object, col. 1, lines 50-67.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



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Motilewa A. Good-Johnson  
Examiner  
Art Unit 2672

mgj  
February 6, 2003



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